

Administration Time for the First Dose of Antimicrobials in Episodes of Fever and Neutropenia in Children With Cancer

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Resumen

Background: Early administration of antimicrobial (AM) is relevant in children with cancer, fever and neutropenia (FN). The recommendation is to administer the first dose of AM within the first hour of hospital admission. Our aims were to determine the time from the moment that a child with FN is admitted to the hospital until they receive their first dose of AM and to determine the association with clinical outcomes.

Methods: This prospective, multicenter study evaluated the time elapsed from the admission to the first dose of AM, comparing this variable by admitting hospital and presentation location (Emergency Department/Oncology Units) and evaluating the clinical outcomes by the following variables: days of fever, days of hospitalization, hypotension, transfer to intensive care unit, sepsis and mortality.

Results: A total of 226 children with 388 episodes of FN were enrolled from 5 hospitals (July 2012-April 2014). The median time between hospital admission and administration of the first dose of AM was 132 minutes (interquartile range: 60-246 minutes). The median time to AM administration was significantly different between hospitals (70 vs. 200 minutes, $P < 0.0001$) and between presentation locations (Emergency Department vs. Oncology Units, median: 200 vs. 100 minutes, $P < 0.0001$). Twenty-five percentage of children received AM within 1 hour of admission. The administration of AM after 60 minutes was not associated with worse outcomes.

Conclusions: Time to AM administration was longer than the recommendation. The findings described provide an opportunity to identify gaps and implement programs aimed at improving the equity and excellence of care in children with cancer and FN.

Palabras clave

Palabras clave de autor: febrile neutropenia; children with cancer; antimicrobial time; quality standards

KeyWords Plus: FEBRILE NEUTROPENIA; PEDIATRIC ONCOLOGY; SEPTIC SHOCK; ANTIBIOTIC DELIVERY; MANAGEMENT; SEPSIS; SURVIVAL

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